Loring BioEnergy, LLC	**)**	**Department**
Aroostook County	**)**	**Finding of Fact and Order**
Limestone, Maine	**)**	**Air Emission License**
A-880-71-C-M	**)**	**Minor Revision #2**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

Introduction

Loring BioEnergy, LLC (LBE) is a proposed electrical generation facility to be located at the former Loring Air Force Base in Limestone, Maine. LBE has submitted a written request for a minor revision to allow for greater fuel flexibility, including the ability to combust biodiesel and petroleum diesel throughout the year.

The LBE project was licensed for a new combustion turbine, combustion turbine generator, duct-fired heat recovery steam generator (HRSG), and a steam turbine generator to produce electric power and process steam for sale. LBE is licensed to produce approximately 55 megawatts (MW) of electric power during the summer and 70 MW during the winter (actual electricity production will vary depending upon atmospheric conditions).

II. APPLICATION CLASSIFICATION

This amendment will not address any increase in emissions of any pollutant. It will allow, as discussed later in this revision, a period of time to develop new emission limits through required stack testing after the facility is operational. Therefore, this modification is determined to be a minor revision and has been processed as such.

III. MINOR REVISION REQUEST

Fuel Flexibility

Loring BioEnergy was issued an air emissions license on July 19, 2004 for the construction and operation of a gas turbine cogeneration facility at the former Loring Air Force Base in Limestone. This license was issued with a condition that the use of diesel fuel be limited to the equivalent of four months per year. The limitation on diesel fuel was proposed by LBE in order to limit annual emissions to minor source levels, thereby simplifying the initial air licensing process. LBE now intends to pursue the development of biodiesel and/or biodiesel blends as an alternative to both natural gas and petroleum diesel. Use of biodiesel and/or biodiesel blends in the proposed facility would displace fossil fuel with a renewable energy source and allow LBE to participate in the expanding renewable energy credit (REC) market. However, in the event biodiesel is either unavailable or not cost effective, LBE is requesting fuel flexibility to use petroleum diesel as well as natural gas.

LBE will commit to performing a set of emission performance tests to evaluate the actual emission performance of the combustion turbine and duct burner on biodiesel. LBE will use the emission performance data from biodiesel and/or biodiesel blends to calculate the plant's potential annual emission rates when using this fuel on a continuous, year-round basis.

Should the potential annual emission rates for the biodiesel or biodiesel blend fired in the turbine exceed major source thresholds, LBE will take one of the following actions:

1. Reduce emissions to less than major source levels by:
    - Adjusting the physical characteristics of the fuel (e.g., burning a different type of biodiesel and/or blend, using fuel additives, etc.) and/or
    - Making changes to the existing emission control equipment (e.g., combustion components, emission control devices) or implementing new control methods;
2. Submit a license amendment application to allow for emissions in excess of major source thresholds. This amendment application will address the use of biodiesel and/or biodiesel blends, diesel fuel, and any combination thereof on a continuous, year-round basis; or
3. Use natural gas and/or diesel fuel in quantities that keep emissions below major source thresholds.

LBE has requested up to thirty (30) months from the completion of the initial emission testing to have either reduced its emissions to minor source levels, to have obtained a final major source license under Chapter 115, or to have begun using natural gas and/or diesel in quantities that will achieve annual emissions below major source thresholds. However, before such a request can be given approval, the Department must be assured that ambient air quality standards are protected. The ambient air quality analysis performed by LBE in support of its initial license application predicted compliance with all air quality standards based on the emission rates for natural gas and diesel fuel. The smallest margin of compliance was predicted to be the 24-hour average PM_{10} increment standard of 30 micrograms per cubic meter (µg/m3), with LBE having a corresponding maximum impact of 19 µg/m3 based on firing diesel fuel. Therefore, the maximum stack emission rates listed in Condition 16(F) of the air license could be increased by approximately 50% and still provide for compliance with ambient air quality standards. To assure compliance with ambient air quality standards, the approval for fuel flexibility will require that hourly emission rates from the LBE stack when firing biodiesel and/or biodiesel blends not exceed 150% of the emission limit values established in Condition 16(F) for the #2 fuel oil.

This limitation on emission rates from biodiesel and/or biodiesel blends is intended to be a temporary measure to protect ambient air quality standards while biodiesel and/or biodiesel blends are being developed and tested. The eventual emission limitations for biodiesel and/or biodiesel blends will depend in part on the results of the emission performance testing, and, if potential annual emissions would exceed major source thresholds, on which of the above options LBE chooses.

Conclusion

LBE requests and is granted, through this minor revision, fuel flexibility including the ability to combust biodiesel and/or biodiesel blends. The resulting fuel flexibility for LBE will allow for the development of an alternative renewable fuel for the power generation industry that has both environmental benefits and positive impacts on the local and national economy.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards, or increment standards either alone or in conjunction with emissions from other sources.

Therefore the Department grants this minor revision A-880-71-C-M, subject to the conditions found in air emission license A-880-71-A-N, subsequent amendments, and in addition to the following condition:

1) The following Condition shall replace Condition 16 (B) of Air Emission License A-880-71-A-N:

(16) B. LBE is licensed to fire natural gas, #2 fuel oil, biodiesel and/or biodiesel blends in the combustion turbine and duct burner. The maximum sulfur content of the #2 fuel shall not exceed 0.05% by weight. [MEDEP Chapter 115]

2) The following is a new Condition to Air Emission License A-880-71-A-N:

(29) LBE shall perform stack testing for NOx, PM, CO, and VOC, within 60 days of startup, when operating on biodiesel and biodiesel blends to determine appropriate emission limits. LBE has up to 30 months from the completion of the initial emission testing to have either reduced its emissions to minor source levels, to have obtained a final major source license under Chapter 115, or to have begun utilizing natural gas and/or diesel in quantities that will achieve annual emissions below major source thresholds.

(30) Hourly emission rates from the LBE stack when firing biodiesel and/or biodiesel blends shall not exceed 150% of the emission limit values established in Condition 16(F) for the #2 fuel oil.

DONE AND DATED IN AUGUSTA, MAINE THIS _____ DAY OF _____ 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 4, 2006
Date of application acceptance: April 4, 2006

Date filed with Board of Environmental Protection:_____

This order prepared by Edwin L. Cousins, BAQ